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EXAMINER	
NG, CHRISTINE Y	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 06/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/029,929	BYSTED ET AL.	
	Examiner	Art Unit	
	Christine Ng	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 February 2002 and 21 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 3-6: It is unclear what is meant by "...directing data from at least one application to a plurality of transport channels in accordance with a bit class of the data, processing each transport channel in accordance with a scheme dependent upon the bit class...". It is unclear if the one application flow is transmitted on several different transport channels, or if the one application flow is transmitted on one transport channel.

In claim 1, lines 4-5 and 6: It is unclear what is meant by the term "bit class". This term is also not defined in the specification.

In claim 4, lines 4 and 6: It is unclear what is meant by the term "bit class". This term is also not defined in the specification.

Claim 4 recites the limitation "said selected manners" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-8, 10-12, 14, 15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,850,540 to Peisa et al in view of U.S. Patent No.6,985,457 to Zeira et al.

Referring to claim 1, Peisa et al disclose in Figure 3 a method of transmitting a radio signal. The method comprises:

Implementing a protocol stack (Figure 3) having at least a physical layer (physical channel 330) and a medium access control layer (MAC entity 320). Refer to Column 6, lines 41-65.

The medium access control layer directing data from at least one application to a plurality of transport channels (transport channels 325) in accordance with a bit class (quality of service QoS) of the data. As shown in Figure 4, each data flow is assigned a Transport Format Combination (TFC) from a Transport Format Combination Set (TFCS) according to the data flow's guaranteed rate transmission rates and QoS. Refer to Abstract; Column 8, line 3 to Column 10, line 56; and Column 17, line 48 to Column 18, line 18.

Processing each transport channel in accordance with a scheme (TFC) dependent upon the bit class. The TFC includes a transmission time interval, a packet size, and a total transmission size. A data flow is transmitted based on a selected TFC, which depends on the data flow's guaranteed rate transmission rates and QoS. Refer to Column 5, lines 27-34.

Multiplexing the transport channels to provide a physical layer signal. "The transport channels 325 are not independent of one another, and are later multiplexed onto a single physical channel 330 at the physical layer 330..." (Column 7, lines 27-29)

A code (TFCI) identifying each transport channel processing scheme. A Transport Format Combination Indicator (TFCI) identifies a corresponding TFC. Refer to Column 7, line 61 to Column 8, line 2.

Peisa et al do not disclose that the code is included in said physical layer signal.

Zeira et al disclose in Figure 2B that a TFCI is included in a physical layer signal frame. Refer to Column 4, lines 52-67. A TFCI indicates a particular TFC, and is transmitted to the receiver to inform the receiver which transport channels are active for the current frame. Based on the TFCI, the receiver can interpret which physical channels and which timeslots have been used. The TFCI provides coordination between the transmitter and receiver. Refer to Column 1, lines 21-35 and Column 2, lines 3-12. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the code is included in said physical layer signal. One would be motivated to do so so that the receiver can determine the transmission parameters from the TFCI in order to properly decode the received information.

Referring to claim 2, Peisa et al do not disclose that said physical layer signal comprises a TDMA signal and said code is transmitted in predetermined locations.

Zeira et al disclose in Figure 2B that the physical layer signal is a TDMA signal and the code (TFCI) is transmitted in predetermined locations (within one or both of the

data fields adjacent to the midamble). Refer to Column 1, lines 12-17; Column 2, lines 48-51; and Column 4, lines 52-67. The frame is used in a hybrid TDMA/CDMA system. Refer to Column 8, lines 25-30. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that said physical layer signal comprises a TDMA signal and said code is transmitted in predetermined locations. One would be motivated to do so so that the receiver can locate the TFCI information in certain locations of the frame and then properly decode the received information using the transmission parameters.

Referring to claim 3, Peisa et al do not disclose that said code is distributed across a plurality of bursts.

Zeira et al disclose in Figure 2B that the code (TFCI) is distributed across a plurality of bursts. Each burst contains a TFCI informing the receiver of which transport channels are active for the current frame and which timeslots have been used. Refer to Column 2, lines 3-12; and Column 4, lines 52-67. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that said code is distributed across a plurality of bursts. One would be motivated to do so so that the receiver can locate the TFCI information in certain locations of the frame and then properly decode the received information using the transmission parameters.

Referring to claim 4, Peisa et al disclose a radio transmitter (Figure 2, UE 110) comprising radio transmitting circuitry and processing means (Figure 3).

The processing means being configured to implement a protocol stack (Figure 3) having at least a physical layer (physical channel 330) and a medium access control

layer (MAC entity 320) including a plurality of transport channels (transport channels 325), each carrying data of a particular bit class (quality of service QoS), which are multiplexed to produce a physical layer signal. Each transport channel carries a data flow of a particular QoS. Refer to Abstract; Column 8, line 3 to Column 10, line 56; and Column 17, line 48 to Column 18, line 18. "The transport channels 325 are not independent of one another, and are later multiplexed onto a single physical channel 330 at the physical layer 330..." (Column 7, lines 27-29)

Each transport channel being processed in accordance with a scheme (Transport Format Combination TFC) dependent upon the bit class. The TFC includes a transmission time interval, a packet size, and a total transmission size. A data flow is transmitted based on a selected TFC, which depends on the data flow's guaranteed rate transmission rates and QoS. Refer to Abstract; Column 5, lines 27-34; Column 8, line 3 to Column 10, line 56; and Column 17, line 48 to Column 18, line 18.

Wherein the processing means is configured to include a code (TFCI) identifying said selected manners. A Transport Format Combination Indicator (TFCI) identifies a corresponding TFC. Refer to Column 7, line 61 to Column 8, line 2.

Peisa et al do not disclose that the code is included in said physical layer signal.

Zeira et al disclose in Figure 2B that a TFCI is included in a physical layer signal frame. Refer to Column 4, lines 52-67. A TFCI indicates a particular TFC, and is transmitted to the receiver to inform the receiver which transport channels are active for the current frame. Based on the TFCI, the receiver can interpret which physical channels and which timeslots have been used. The TFCI provides coordination

between the transmitter and receiver. Refer to Column 1, lines 21-35 and Column 2, lines 3-12. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the code is included in said physical layer signal. One would be motivated to do so in order to inform the receiver can determine the transmission parameters from the TFCI in order to properly decode the received information.

Referring to claim 5, refer to the rejection of claim 2.

Referring to claim 6, refer to the rejection of claim 3.

Referring to claim 7, refer to the rejection of claim 1. The MAC layer (Figure 3, MAC entity 320) "has to decide how much data to transmit on each transport channel 325 connected to it" (Column 7, lines 25-27). Furthermore, the method of selecting TFC's shown in Figure 4 is performed by MAC entity 320. Refer to Column 7, lines 25-60; and Column 10, lines 29-56.

Referring to claim 8, refer to the rejection of claim 1. A physical layer (Figure 3, physical channel 330) is connected for use with the MAC layer (Figure 3, MAC entity 320). Refer to Column 6, lines 41-65.

Referring to claim 10, Peisa et al disclose that said bit classes (quality of service QoS) are associated with a quality of service requirement. As shown in Figure 4, each data flow is assigned a TFC from a TFCS according to the data flow's guaranteed rate transmission rates and QoS. Refer to Abstract; Column 8, line 3 to Column 10, line 56; and Column 17, line 48 to Column 18, line 18.

Referring to claim 11, refer to the rejection of claim 1 and claim 10. The MAC layer (Figure 3, MAC entity 320) "has to decide how much data to transmit on each transport channel 325 connected to it" (Column 7, lines 25-27). Furthermore, the method of selecting TFC's shown in Figure 4 is performed by MAC entity 320. Refer to Column 7, lines 25-60 and Column 10, lines 29-56.

Referring to claim 12, refer to the rejection of claim 1 and claim 10. A physical layer (Figure 3, physical channel 330) is connected for use with the MAC layer (Figure 3, MAC entity 320). Refer to Column 6, lines 41-65.

Referring to claim 14, refer to the rejection of claim 4. The radio transmitter (Figure 2, UE 110) comprises a MAC layer (Figure 2, MAC-c and MAC-d). Refer to Column 4, lines 20-47. The MAC layer (Figure 3, MAC entity 320) "has to decide how much data to transmit on each transport channel 325 connected to it" (Column 7, lines 25-27). Furthermore, the method of selecting TFC's shown in Figure 4 is performed by MAC entity 320. Refer to Column 7, lines 25-60 and Column 10, lines 29-56.

Referring to claim 15, refer to the rejection of claim 4. The radio transmitter (Figure 2, UE 110) comprises a physical layer (Figure 2, PHY). Refer to Column 4, lines 20-47. A physical layer (Figure 3, physical channel 330) is connected for use with the MAC layer (Figure 3, MAC entity 320). Refer to Column 6, lines 41-65.

Referring to claim 17, Peisa et al disclose that said bit classes (quality of service QoS) are associated with a quality of service requirement. As shown in Figure 4, each data flow is assigned a TFC from a TFCS according to the data flow's guaranteed rate

transmission rates and QoS. Refer to Abstract; Column 8, line 3 to Column 10, line 56; and Column 17, line 48 to Column 18, line 18.

Referring to claim 18, refer to the rejection of claim 4 and claim 17. The radio transmitter (Figure 2, UE 110) comprises a MAC layer (Figure 2, MAC-c and MAC-d). Refer to Column 4, lines 20-47. The MAC layer (Figure 3, MAC entity 320) "has to decide how much data to transmit on each transport channel 325 connected to it" (Column 7, lines 25-27). Furthermore, the method of selecting TFC's shown in Figure 4 is performed by MAC entity 320. Refer to Column 7, lines 25-60 and Column 10, lines 29-56.

Referring to claim 19, refer to the rejection of claim 4 and claim 17. The radio transmitter (Figure 2, UE 110) comprises a physical layer (Figure 2, PHY). Refer to Column 4, lines 20-47. A physical layer (Figure 3, physical channel 330) is connected for use with the MAC layer (Figure 3, MAC entity 320). Refer to Column 6, lines 41-65.

5. Claims 9, 13, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,850,540 to Peisa et al in view of U.S. Patent No.6,985,457 to Zeira et al, and in further view of U.S. Publication No. 2002/0164980 to Eriksson et al.

Peisa et al do not disclose that the processing schemes are specified at call set-up when the radio signal is for use in a mobile communications systems.

Eriksson et al disclose in Figure 2 a radio transceiver that includes a transport format combination storage device 14 that stores a plurality of transport format combination sets corresponding to a plurality of different calls. The TFCS descriptors

are provided during call set up, with the call information 27. An assembler 16 uses a TFCI to index each of the transport format combinations in the storage device 14, and uses a call ID index the desired transport format combination set in device 14. Refer to Section 0057 and 0065. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the processing schemes are specified at call set-up when the radio signal is for use in a mobile communications systems. One would be motivated to do so so that the appropriate transmission parameters specified by the TFC and corresponding to a specific call can be used for the call.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C. Ng (CN)
June 16, 2006

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